

Amendments to Claims

1. (Currently Amended) An electroluminescence generating device comprising
- a. a channel of a single thin layer of a single polycrystalline small molecule material, whereby said polycrystalline small molecule material has a crystal grain size and organic semiconductor material; said channel is being able to carry both types of charge carriers, said charge carriers being electrons and holes;
 - b. an electron electrode, said electron electrode being in contact with said channel and positioned on top of a first side of said channel layer or within said channel layer, said electron electrode being able to inject electrons in said channel layer;
 - c. a hole electrode, said hole electrode being spaced apart from said electron electrode, said hole electrode being in contact with said channel and positioned on top of said first side of said channel layer or within said channel layer, said hole electrode being able to inject holes into said channel;
 - d. a control electrode positioned on said first side or on a second side of said channel;

whereby light emission of said electroluminescence generating device can be acquired by applying an electrical potential difference between said electron electrode and said hole electrode.

2. (Currently Amended) The electroluminescence generating device Device according to claim 1, further comprising a dielectric layer between said channel and said control electrode.

3. (Currently Amended) The electroluminescence generating device
Device according to claim 2, wherein said dielectric layer comprises at least one material selected from the group consisting of silicon oxide, alumina, polyimide and polymethylmetacrylate.

4. (Currently Amended) The electroluminescence generating device
Device according to claim 1, wherein at least one of said electron electrode and said hole electrode comprise at least one different material which is not comprised in the other one.

5. (Currently Amended) The electroluminescence generating device
Device according to claim 1, said electron electrode comprises one or more elements selected from the group consisting of Au, Ca, Mg, Al, In, and Perovskite Manganites ($\text{Re}_{1-x}\text{A}_x\text{MnO}_3$).

6. (Currently Amended) The electroluminescence generating device
~~Device~~ according to claim 1, wherein said hole electrode comprises at least one material selected from the group consisting of Au, indium tin oxide, Cr, Cu, Fe, Ag, poly(3,4-ethylenedioxythiophene) combined with poly(styrene sulfonate), and Perovskite Manganites ($\text{Re}_{1-x}\text{A}_x\text{MnO}_3$).

7. (Canceled)

8. (Currently Amended) The electroluminescence generating device
Device according to claim 1 [[7]] wherein said channel comprises at least one material selected from the group consisting of tetracene, pentacene, perylene perylenes, terthiophene, tetrathiophene, quinquethiophene, sexithiophene, boradiazaindacene, polyphenylenevinylene, ~~polyfluorene, polythiophene and~~ porphyrin porphyrins.

9-11. (Canceled)

12. (Currently Amended) The electroluminescence generating device
Device according to claim 1, wherein said hole electrode and said electron
electrode are spaced apart at a distance between 5 nm and 5 microns.

13. (Currently Amended) The electroluminescence generating device
Device according to claim 1, wherein said electron electrode and said hole
electrode have digitated structures comprising a regular repetition of a basic
finger structure, and are positioned such that said basic finger structures of
respectively hole and electron electrodes are alternating each other, and is
characterized characterized by two in-plane distances P and R between the
basic finger structures.

14. (Currently Amended) The electroluminescence generating device
Device according to claim 13, wherein said P and R are equal.

15. (Currently Amended) The electroluminescence generating device
Device according to claim 1, wherein said control electrode is an injection control
electrode, said injection control electrode being positioned on said second side of
said channel, whereby the application of an electrical potential difference
between said control electrode and said hole electrode or electron electrode[.]
facilitates the injection of charge carriers into said channel.

16. (Currently Amended) The electroluminescence generating device
Device according to claim 1, wherein said control electrode is a current control
electrode, said current control electrode being positioned on said second side of
said channel, whereby the application of an electrical potential difference
between said control electrode and said electron and/or hole electrode allows to
control the current of at least one type of charge carriers.

17-18. (Canceled).

19. (Currently Amended) The electroluminescence generating device
Device according to claim 1, further comprising optical confinement and/or
waveguiding layers on said first and/or said second side of said channel.

20. (Currently Amended) The electroluminescence generating device
Device according to claim 1, further comprising optical resonating structures or
cavities on said first and/or said second side of said channel.

21. (Currently Amended) The electroluminescence generating device
Device according to claim 1, further comprising a flexible or rigid substrate.

22. (Currently Amended) The electroluminescence generating device
Device according to claim 1, wherein said channel is a channel formed by
sublimation of small molecules.

23. (Canceled)

24. (Currently Amended) The electroluminescence generating device
Device according to claim 1, wherein said channel is a channel formed by
solution processing of a small molecule one or more soluble and/or polymeric
materials.

25. (Currently Amended) The electroluminescence generating device
Device according to claim 1, whereby said channel is a channel formed by a
combination of sublimation and solution processing.

26. (Currently Amended) The electroluminescence generating device
Device according to claim. 1, wherein said channel is a channel formed by
thermal, chemical or physical treatment of pre-deposited organic
semiconductors.

27. (Currently Amended) The electroluminescence generating device
Device according to claim 1, manufactured with printing techniques.
28. (Currently Amended) A method for generating electroluminescence
using the [[a]] device according to claim 1, by recombination of electrons and
holes injected in the channel from said electron electrode and hole electrode.